



## MONSANTO COMPANY

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<http://www.monsanto.com>

November 14, 2008

**Hand Delivered**

Document Processing Center (AMEND)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive, Room S4900  
Arlington, VA 22202-4501

Attention: Mr. James A. Tompkins (7505P)  
Product Manager, Team (25)

**Subject: Maverick® and Outrider® Herbicides (EPA Reg. No. 524-500);  
Submission of Amended Master Label**

Dear Mr. Tompkins:

Enclosed for EPA review and approval is an amended Master Label for EPA Reg. No. 524-500. Revisions have been made to incorporate the most recently approved uses in bermudagrass and bahiagrass pastures as accepted by the Agency in a letter dated February 4, 2008, and on supplemental labeling accepted by the Agency in a letter dated April 2, 2008. Also, the Master Label has been reformatted and revised in several places, with specific attention focused on the following items:

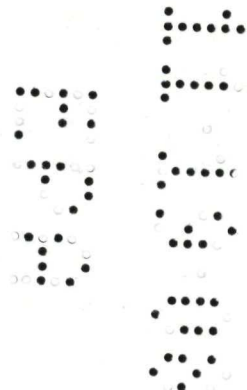
- All pasture and rangeland uses have been added to the Outrider section of the label.
- The bermudagrass and bahiagrass non-crop sites have been moved to the Outrider section of the label.
- New "Storage and Disposal" sections were written according to the Label Review Manual, Chapter 13 dated October 2008.
- The word "recommended" has been deleted when referring to application rates.
- Four (4) weeds were removed from the list of weeds controlled in the Outrider section of the label.
- Corrections have been made based upon the comments received from reviews of the previous Master Label and Supplemental Labels.

If you should have any questions, please contact Dr. Russ Schneider (202-383-2866), or me by phone (314-694-1538) or by electronic mail at [clyde.l.livingston@monsanto.com](mailto:clyde.l.livingston@monsanto.com).

Sincerely,

Clyde L. Livingston  
Registration Manager

Cc: Russ Schneider, Ph.D.  
State Team  
File Copy







United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number Monsanto Company / EPA Reg. No. 524-500	2. EPA Product Manager James A. Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Monsanto Company / Maverick and Outrider Herbicides	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I (Eye) Street, N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: <input checked="" type="checkbox"/> EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of revised Master Label to update uses most recently approved by EPA in letter dated April 2, 2008. Also, the Master Label has been reformatted with new "Storage and Disposal" sections, pasture and rangeland uses have been moved to the Outrider section, and the term "recommended" when referring to application rates has been deleted.

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Dir., Regulatory Affairs	
		Telephone No. (Include Area Code) (202) 383-2866	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Clyde L. Livingston</i>		3. Title Registration Manager	
4. Typed Name Clyde L. Livingston		5. Date November 14, 2008	



# Certification with Respect to Label Integrity

version: 9/11/02

I certify that the information (including, but not limited to, text, tables, and graphics) contained in the electronic file identified below by file name and submitted with this certification is the same information as that on the paper copies of these documents included with this submission.

## PROPOSED LABEL

EPA Registration #	Date Submitted to EPA	Electronic file name
524-500	11/14/2008	000524-00500.20081114.pdf

I certify that the statements that I have made on this form are true, accurate, and complete. I acknowledge that any knowingly false or misleading statements may be punishable by fine or imprisonment or both under applicable law.

Signature

Clyde L. Livingston

Name (typed)

Registration Manager

Title

November 14, 2008

Date



# MATERIAL TO BE ADDED TO JACKET

REG #

524-500

Description:

Master and Supplemental for Bermudez + Bohagies

Portures

check all that apply	
<input checked="checked" type="checkbox"/>	new stamped accepted label
<input type="checkbox"/>	new CSF
<input type="checkbox"/>	notification

Send to CSC

## Instructions:

Attach this sheet to the top of **ALL** material sent to the file room (both loose paper and new material in jackets). This sheet will be imaged; a clear description will aid in finding material in the e-jacket. Remove staples from all material. If returning loose paper then hold together with a binder or paper clip. CSFs should be placed in the CSF folder (if returning jacket) or covered with a red CBI sheet (if returning loose paper). Material to be returned to file room should be place in the appropriate bin.

Reviewer's

Name: Vickie K Walters

Date: 4/2/08

Phone: 703-305-5704

Division: RD/HB/PM-25





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

APR -2 2008

Mr. Stephen A. Adams  
Monsanto Company  
1300 I (Eye) Street, NW, Suite 450 East  
Washington, DC 20005

Dear Mr. Adams:

Subject: Maverick Herbicide (Supplemental and Master Label for Bermudagrass and Bahiagrass Pastures)  
EPA Registration No. 524-500  
Application Dated March 24, 2008

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable, subject to the following comments

1. The use on bermudagrass and bahiagrass pastures is acceptable provided you generate and submit additional residue data if required once review of submitted information is completed.
2. On page 28 of your master label, under Aerial Equipment the phrase "recommended rate" must be revised to read "labeled rates". The Agency is no longer allowing use of the term "recommended" when referring to application rates.
3. On page 31 of your master label, the heading "Site and Use Recommendations" must be changed to read similar to "Site and Use Instructions". The Agency no longer allows the use of the word "recommended" in this context.
4. On page 31 of your master label, under "Tank Mixtures", the first line of the first paragraph, place a "." after acre and delete the words "in a".
5. There are several places in your master label where the term "recommended rate" is used when referring to application rates. The word "recommended" must be deleted from these places. The Agency no longer allows the word "recommended" when referring to application rates. Keep this in mind when developing or revising label for Agency approval.



Page 2

EPA Registration No. 524-500

Submit one (1) copy of your final printed labeling incorporating the above changes before you release the product for shipment. Amended labeling supersedes all previously approved ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

*Vivian K Walters for*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)



# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR MAVERICK® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Maverick herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on this supplemental labeling and on the label booklet provided with the pesticide container. This supplemental labeling must be in the possession of the user at the time of pesticide application.

## MAVERICK® HERBICIDE

EPA Reg. No. 524-500

Maverick is a registered trademark of Monsanto Technology LLC.

CONTROL OF JOHNSONGRASS, PURPLE AND YELLOW NUTSEDGE, AND  
GREEN KYLLINGA IN BERMUDAGRASS AND BAHIA GRASS PASTURES

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

APR -2 2008

Keep out of reach of children

**CAUTION!**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
524-500

In case of an emergency involving this product or for user safety information on this product,  
call collect, day or night (314) 694-4000.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

See "DIRECTIONS FOR USE" and "MIXING INSTRUCTIONS" sections of the label booklet for Maverick herbicide for essential product performance information.

Maverick herbicide may be used in early spring through fall to control or partially control johnsongrass, purple and yellow nutsedge, green kyllinga and other weeds in well-established bermudagrass and bahiagrass pastures. Apply Maverick herbicide up to 2.0 ounces per acre. A follow-up application can be made after suitable regrowth of weeds and no sooner than 40 days after the previous application. Use higher rates of this product for control of large, established weeds or when growth is heavy or dense. DO NOT EXCEED TWO APPLICATIONS OR A MAXIMUM OF 2.66 OUNCES OF THIS PRODUCT PER ACRE PER YEAR.

Addition of nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required. Use only nonionic surfactants that contain at least 90 percent active ingredient. Do not use surfactants that alter the pH of the spray solution below pH 5. Spray solutions of between pH 6.0 and 8.0 provide optimum results.

Grass forage may be grazed immediately after application. Do not harvest for hay within 14 days of application.

No crop, except wheat, may be planted into pastures that have been treated with this product within 12 months after application. All crops other than wheat may be seeded only after completion of a successful field bioassay as indicated in the FIELD BIOASSAY section.

### FIELD BIOASSAY

A field bioassay must be completed before rotating any crop other than wheat into pastures that have been treated with this product. To conduct an effective field bioassay, grow strips of the crop you intend to grow the following season in fields previously treated with Maverick herbicide. Crop response to the bioassay will determine if the crop(s) grown in test strips can be grown safely in areas previously treated with this product.

**Read the "LIMIT OF WARRANTY AND LIABILITY" in the label pamphlet for Maverick herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

©2008 MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI 63167

[insert print plate number]

[insert date]



# MASTER LABEL FOR EPA REG. NO. 524-500

Registered Brand Names:

**Maverick® Herbicide**  
**Outrider® Herbicide**

## Master Label Table of Contents

I.	Maverick Herbicide	2 – 20
II.	Outrider Herbicide	21 – 39
III.	Outrider Herbicide: Supplemental Label For Selective Herbaceous Weed Control in Forestry Conifer Release	40 – 46

### Note to Reviewer:

This Master Label is identical to that accepted by the Agency on May 18, 2006, except for revision of the winter wheat section of the Maverick herbicide label according to the supplemental labeling for this application accepted by the Agency on January 30, 2007, and the inclusion of the use of Maverick herbicide in bermudagrass and bahiagrass pastures as accepted with comments by the Agency on February 4, 2008. As per Agency comments with respect to pasture application, the label was revised to clearly state that a maximum of 2 applications are to be made and that the applications are to be made in early spring through fall. In accordance with Monsanto's request for reconsideration of the use of a nonionic surfactant with pasture application, this Master Label retains that label recommendation. The only other changes made to the label are minor typographical changes.



**MAVERICK®**  
Herbicide by Monsanto

**Complete Directions For Use**

EPA Reg. No. 524-500

**WATER DISPERSIBLE GRANULE**

Maverick herbicide is a selective herbicide for the control of listed annual and perennial grasses and broadleaf weeds in winter and spring wheat.

*[Alternate statement: Maverick herbicide is a selective herbicide for the control of listed annual and perennial grasses and broadleaf weeds in winter and spring wheat, and in select pasture grasses.]*

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

*[Alternate language for container label]*

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

**ACTIVE INGREDIENT :**

Sulfosulfuron .....	75.0%
OTHER INGREDIENTS .....	<u>25.0%</u>
	100.0%

Product is protected by U.S. Patent Nos. 5,017,212 and 5,534,482.

[insert year]

[insert print plate no.]



## PRECAUTIONARY STATEMENTS

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

APR -2 2008

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
524-500

### Hazards to Humans and Domestic Animals

Keep out of reach of children.

## CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

### FIRST AID

#### IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.
- Call a poison control center or physician for treatment advice.

- Have the product container or label with you when calling a poison control center or physician, or going for treatment.
- In case of emergency involving this product, call collect, day or night, (314) 694-4000.
- This product is identified as **Maverick herbicide, EPA Reg. No. 524-500.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.



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## Environmental Hazards

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This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is highly toxic to non-target plants. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

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## DIRECTIONS FOR USE

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and



water-based formulations) on an EPA chemical resistant category selection chart.

For more product information or assistance in using this product, call toll-free 1-800-332-3111.

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## STORAGE AND DISPOSAL

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Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120°F). Do not store under moist conditions.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

**CONTAINER DISPOSAL:**

[See individual container label for disposal information.]

[*Disposal Information for Packaging*]: Empty container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

Do not reuse container. Triple rinse container, then puncture and dispose of it in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

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## APPLICATION EQUIPMENT

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This product may be applied through either ground or aerial (fixed-wing or helicopter) equipment. Calibrate spray equipment before use. Thorough coverage is necessary to provide good weed control. Use equipment that is capable of continuous and vigorous tank agitation. When tank is full, the agitation system should be capable of creating a rippling or rolling action on the liquid surface.

Apply Maverick herbicide uniformly as a broadcast spray with properly calibrated ground equipment in 5 to 20 gallons of water per acre or 10 to 40 gallons of liquid fertilizer solution per acre. Or apply with aerial equipment in 5 to 15 gallons of water per acre. Select spray volumes that ensure thorough and uniform weed coverage. Choose nozzles which provide optimum spray distribution and coverage at the appropriate spray pressure. Avoid streaking, skips, overlaps, and spray drift during application.

Monsanto will not be liable for rotational crop injury which results from spray overlaps during Maverick herbicide applications.

Do not apply this product through any type of irrigation system.

**Important—Equipment Cleaning:** Thoroughly clean application equipment immediately after Maverick herbicide use. Prepare a tank cleaning solution which consists of a 1 percent solution of ammonia (one quart of ammonia for every 25



gallons of water). Use sufficient cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Repeat the procedure with the ammonia solution. Complete the cleaning process by rinsing with clean water.

If visible residue is present in the spray tank, a solution consisting of 1 percent ammonia plus 0.25 percent nonionic surfactant (0.25 quart per 25 gallons of water) is recommended for adequate cleansing.

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## **SPRAY DRIFT MANAGEMENT**

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Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

### **GROUND SPRAY DRIFT REQUIREMENTS**

Care must be used when applying this product to prevent injury to desirable plants and crops. Do not allow the herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted since minute quantities of this product can cause severe damage or destruction to plants on which treatment was not intended. Drift potential increases at wind speeds less than 3 miles per hour or more than 10 miles per hour. However, equipment type, nozzle size, and other factors influence drift potential at any given wind speed. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. Avoid applying at excessive speed or pressure. **AVOID WINDLESS AND GUSTY WIND CONDITIONS.**

### **AERIAL SPRAY DRIFT REQUIREMENTS**

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

### **Importance of droplet size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the **“Wind”**, **“Temperature and Humidity”**, and **“Temperature Inversions”** sections of this label).



## Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

## Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

## Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

## Temperature and Humidity



When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not be made during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

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## **MIXING INSTRUCTIONS**

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Thoroughly clean equipment prior to mixing spray solution.

Fill the spray tank to about 3/4 of the desired volume. Add the recommended amount of this product as listed in the "WEEDS CONTROLLED" section of this label. Complete the filling process while maintaining agitation. Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source. For postemergence applications, add nonionic surfactant as the last ingredient in the tank.

When applying Maverick herbicide by air in 5 gallons of spray solution per acre, a spray solution pH of 6.0 to 8.0 is optimum. Addition of 2 to 4 quarts of a 7-percent ammonia solution for every 100 gallons of spray solution will increase the pH of the spray solution to within the optimal range. Failure to adjust the pH of spray solution may result in reduction in weed control. Fill the spray tank to about 3/4 of the desired volume prior to mixing. With agitation, add Maverick herbicide and nonionic surfactant to the spray solution. Then adjust the spray solution pH with the ammonia solution.

**CAUTION:** Do not use ammonia with chlorine bleach as dangerous gases will form.

Spray solutions should be applied within 24 hours after mixing.



**Adjuvants:** A nonionic surfactant (NIS) is the only adjuvant required in the spray solution for postemergence applications. Use only nonionic surfactants that are approved by EPA for use on food crops and that contain at least 80 percent active ingredient. Nonionic surfactants should be added at 0.5 percent by volume (2 quarts per 100 gallons of spray solution). **DO NOT USE NONIONIC SURFACTANTS OR OTHER ADDITIVES THAT ALTER THE pH OF THE SPRAY SOLUTION BELOW pH 5.**

**Spray solutions of pH 6.0-8.0 are optimum.**

Oil based adjuvants or adjuvants containing oils are not recommended when this herbicide is tank-mixed with emulsifiable concentrate pesticide formulations.

Do not use low rates of liquid fertilizer as a substitute for surfactant.

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### **APPLICATION IN FLUID FERTILIZER**

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**Application of this herbicide in liquid fertilizer solutions may result in leaf burn and reduced forage growth.**

This herbicide generally provides most consistent performance when applied with water as the spray carrier and surfactant is added to the spray solution. However, liquid nitrogen fertilizer solutions (28-0-0 or 32-0-0) may be used as a spray carrier in place of all or part of the water when the label recommendations are followed.

**DO NOT USE MAVERICK HERBICIDE IN FERTILIZER SOLUTIONS WITH pH 5 OR LESS.**

#### **Fall Applications**

Fall applications of this herbicide in liquid fertilizer solutions may cause rapid leaf burn, resulting in reduced weed control and reduced forage growth.

Fertilizer solutions should contain less than 50 percent liquid nitrogen and not exceed 30 pounds of actual nitrogen per acre.

Nonionic surfactants should be added at 0.25 percent by volume to spray solutions containing fluid fertilizer.

#### **Spring Applications**

Fertilizer solutions containing more than 50 percent liquid nitrogen may result in excessive leaf burn from the fertilizer.

Nonionic surfactants should be added at 0.25 percent by volume to spray solutions containing fluid fertilizer.

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### **WEEDS CONTROLLED**

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#### **Biological Information**



Maverick herbicide is a selective herbicide for the control of many grass and broadleaf weed species in winter and spring wheat. Refer to the "WEEDS CONTROLLED" section for a listing of weeds controlled.

The level of weed control following Maverick herbicide application is dependent upon application rate, weed species and size at application time, and growing conditions. For best results, postemergence applications should be made to actively growing weeds at the growth stages defined in this label. Heavy infestations should be treated early before the weeds become too competitive with the crop.

Soon after Maverick herbicide is applied, growth of susceptible weeds is inhibited, and susceptible weeds are no longer competitive with the crop. Following growth inhibition, affected plants may appear dark green and stunted, affected leaves will turn yellow and/or red, followed by death of the growing point of the plant. These visible effects of control may not be observed until 1 to 3 weeks after application.

#### Weeds Controlled or Suppressed in Winter Wheat

WEED SPECIES	Pre	Fall Post	Spring Post
<b>Barley, volunteer</b> <i>Hordeum vulgare</i>	C	C	S
<b>Bedstraw, catchweed</b> <i>Galium aparine</i>	S	C	C
<b>Bluegrass, bulbous</b> <i>Poa bulbosa</i>	•	•	C
<b>Bluegrass, roughstalk</b> <i>Poa trivialis</i>	•	C	•
<b>Brome, downy</b> <i>Bromus tectorum</i>	C	C	S
<b>Brome, Japanese</b> <i>Bromus japonicus</i>	C	C	S
<b>Brome, ripgut</b> <i>Bromus rigidus</i>	•	S	S
<b>Chamomile, mayweed</b> <i>Anthemis cotula</i>	•	C	C
<b>Cheat</b> <i>Bromus secalinus</i>	C	C	S
<b>Chess, hairy</b> <i>Bromus commutatus</i>	C	C	S
<b>Chickweed, common</b> <i>Stellaria media</i>	•	S	C
<b>Fiddleneck, tarweed</b> <i>Amsinckia lycopsoides</i>	•	S	S
<b>Flixweed</b> <i>Descurainia Sophia</i>	S	S	S
<b>Henbit</b>	S	S	•



<i>Lamium amplexicaule</i>			
<b>Lady's-thumb</b>	•	•	S
<i>Polygonum persicaria</i>			
<b>Mustard, tumble</b>	S	C	C
<i>Sisymbrium altissimum</i>			
<b>Mustard, wild</b>	C	C	C
<i>Sinapis arvensis</i>			
<b>Oat, wild</b> (fall germinating)	•	S	S
<i>Avena fatua</i>			
<b>Oat, wild</b> (spring germinating)	•	•	S
<i>Avena fatua</i>			
<b>Pennycress, field</b>	S	S	S
<i>Thlaspi arvense</i>			
<b>Quackgrass</b>	•	•	C
<i>Elytrigia repens</i>			
<b>Rescuegrass</b>	•	S	S
<i>Bromus catharticus</i>			
<b>Ryegrass, Italian</b>	•	S	S**
<i>Lolium multiflorum</i>			
<b>Shepherd's-purse</b>	•	•	C
<i>Capsella bursa-pastoris</i>			
<b>Tansymustard, pinnate</b>	S	S	S
<i>Descurainia pinnata</i>			
<b>Wallflower, bushy</b>	•	C	C
<i>Erysimum repandum</i>			

\*\* Spring application will provide suppression only in WA, ID, OR.

C = Control

S = Suppression

#### Weeds controlled or suppressed in Spring Wheat:

WEED SPECIES	Pre	Post
<b>Oat, wild</b>	•	C
<i>Avena fatua</i>		
<b>Sunflower, common</b>	C	C
<i>Helianthus annuus</i>		
<b>Quackgrass</b>	•	S
<i>Elytrigia repens</i>		
<b>Barley, volunteer</b>	S	S
<i>Hordeum vulgare</i>		

C = Control

S = Suppression

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Winter Wheat

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Maverick herbicide can be applied in winter wheat either as a single preemergence application, a single post-emergence application or as a split postemergence application to control the weeds listed in the "WEEDS CONTROLLED" section of this label. Best weed control is obtained when soil moisture is adequate to support vigorous wheat and weed growth.

Choose one of the following application scenarios.

#### **Preemergence in Winter Wheat**

Apply Maverick herbicide preemergence to winter wheat at 2/3 ounce of product per acre in a single application. Preemergence applications of Maverick herbicide should be applied after drilling wheat but before wheat or weed emergence. Do not apply preemergence if dry soil conditions will cause delayed wheat and/or weed emergence. Preemergence applications under dry conditions make this product vulnerable to wind erosion until fall moisture is received. Under dry conditions, wait until crop and weeds have emerged and are showing good vigor, and follow directions for postemergence application.

Preemergence applications are not recommended for no-till systems or when high crop residue levels (plant material) are present on the soil surface.

#### **Postemergence in Winter Wheat—Single Application**

Apply Maverick herbicide at 2/3 ounce of product per acre in a single application when the target weeds listed in the "WEEDS CONTROLLED" section are actively growing. Use 0.5 percent by volume nonionic surfactant concentration (2 quarts per 100 gallons of spray solution) for all postemergence applications.

In the states of KS, OK, TX and MT, the single postemergence application should be made after the wheat is in the 2-leaf stage, but prior to the jointing stage (Feekes' Scale 6). In all other states, postemergence application should be made after the wheat emerges, but prior to the jointing stage (Feekes' Scale 6).

#### **Brome (Cheat, Downy Brome, Japanese Brome)**

For best control of brome species, apply Maverick herbicide as a single postemergence fall application of 2/3 ounce of product per acre when brome is in the 2- to 3-leaf stage of growth. Best performance with fall applications of Maverick herbicide will occur with good soil moisture and/or rainfall after application.

For spring postemergence suppression of brome species, apply a single application of 2/3 ounce of this product per acre when brome has recovered from cold weather (majority of foliage is green and not red or purple) and is actively growing. For best results, make application when brome is less than the 5-tiller stage of growth.

#### **Mustards and other winter annual broadleaf weeds**

For fall postemergence control of mustards and other winter annual broadleaf weeds, apply 2/3 ounce of this product per acre in a single application. For best control, make applications when weeds are less than 2 inches in diameter.



For spring postemergence control of winter annual broadleaf weeds, apply 2/3 ounce of this product per acre in a single application. For best control, make application when weeds are less than 6 inches in diameter.

### **Postemergence in Winter Wheat—Split Application**

**[Optional Statement: For use only in the following states: Idaho, Montana, Oregon, Washington, and Wyoming]**

As an alternative to a single postemergence application, Maverick herbicide may be applied to winter wheat in a split application. Start with an initial application of 3/8 ounce of product per acre after winter wheat and target weeds have emerged (after the 2-leaf stage), followed by a second application of 3/8 ounce of Maverick herbicide per acre in the spring, no sooner than two weeks following the initial application but prior to boot stage (Feekes' scale 9). Use 0.5 percent by volume nonionic surfactant concentration (2 quarts per 100 gallons of spray solution) for all postemergence applications.

**FOR SPLIT APPLICATION ONLY, DO NOT EXCEED ¾ OUNCE OF PRODUCT PER ACRE PER CROPPING SEASON.**

### **Tank Mixtures for Winter Wheat**

Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. Add individual formulations to the spray tank in the following sequence: water dispersible granules (this product), water-soluble bags, dry flowables, emulsifiable concentrates, drift control additives, water soluble liquids, nonionic surfactant.

Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in the tank mixture.

**Insecticides:** Maverick herbicide may be tank-mixed or used sequentially with insecticides, except for Malathion.

**Do not use Maverick herbicide plus Malathion, as crop injury may result.**

Tank mixtures of Maverick herbicide plus insecticides are not recommended when the wheat crop has significant insect damage, is under drought stress, or when growth is influenced by other environmental stress, such as nutrient deficiency, soil pH, or disease.

Do not apply Maverick herbicide within 60 days of crop emergence where an organophosphate insecticide has been applied as an in-furrow treatment, as crop injury may result.

**Herbicides:** For control of additional broadleaf weeds, Maverick herbicide may be applied as a spring postemergence application in a tank mixture with the following herbicides.

2,4-D amine<sup>1,2,3</sup>

MCPA amine<sup>1,2,3</sup>



2,4-D LV ester<sup>2</sup>

Bronate™ (bromoxynil + MCPA)

Buctril™ (bromoxynil)

Buctril 4EC

MCPA LV ester<sup>2</sup>

Puma™ (fenoxaprop)<sup>3</sup>

Sencor™ 4 (metribuzin)<sup>3,4</sup>

Sencor™ DF (metribuzin)<sup>3,4</sup>

<sup>1</sup> Tank mixtures with this herbicide may result in reduced control of brome species.

<sup>2</sup> Tank mixtures with this product may be made provided the specific product being used is registered for postemergence application to wheat.

<sup>3</sup> Not recommended for use with split application rate of 3/8 ounce of Maverick herbicide.

<sup>4</sup> Different formulations of the active ingredient may be used, provided that the specific product being used is registered for postemergence application to wheat.

Tank mixtures with herbicides formulated as amines may decrease the effectiveness of Maverick herbicide.

Refer to tank-mix herbicide label for application rate and restrictions related to soil texture, soil organic matter, and wheat growth stage.

Tank mixtures with metribuzin may be applied only in the spring.

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## SPRING WHEAT

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In spring wheat, Maverick herbicide should be applied only postemergence in a single application, at the maximum rate of 2/3 ounce of product per acre per cropping season. Best weed control is obtained when soil moisture is adequate to support vigorous wheat and weed growth.

### **Postemergence in Spring Wheat (Not recommended for durum wheat)**

Apply Maverick herbicide at 2/3 ounce of product per acre in a single application when the target weeds listed in the "WEEDS CONTROLLED" section are actively growing. Use 0.5 percent by volume nonionic surfactant concentration (2 quarts per 100 gallons of spray solution) for postemergence applications.

**Postemergence applications should be made after the wheat emerges, but prior to the jointing stage (Feekes' Scale 6).**

### **Specific Weed Problems**

#### **Wild Oat**

For wild oat control in spring wheat, Maverick herbicide should be applied postemergence after the wheat and wild oat have emerged. For control of wild oat, apply 2/3 ounce per acre of this product when wild oat are in the 1 to 4 true leaf



stage. For postemergence applications, always add a nonionic surfactant at 0.5 percent by volume.

### **Tank Mixtures for Spring Wheat**

Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. For tank mixtures, add individual formulations to the spray tank in the following sequence: water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by nonionic surfactant.

**Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures.**

For control of additional grasses and broadleaf weeds, Maverick herbicide may be applied as a postemergence tank mixture application with the following herbicides. Refer to tank-mix herbicide label for application rate and restrictions related to soil texture, soil organic matter, and wheat growth stage. Always add nonionic surfactant at 0.5 percent by volume.

**Tank mixtures with herbicides formulated as amines may decrease the effectiveness of Maverick herbicide.** Apply 2/3 ounce of Maverick herbicide in a single application with:

PRODUCT	
2,4-D amine <sup>1, 2</sup>	Dakota™ (fenoxaprop + MCPA)
2,4-D LV ester <sup>2</sup>	MCPA amine <sup>1, 2</sup>
Bronate (bromoxynil + MCPA)	MCPA LV ester <sup>2</sup>
Buctril (bromoxynil)	Puma™ (fenoxaprop)
Buctril 4EC	Stinger™ (clopyralid)
Cheyenne™	Tiller™ (fenoxaprop + 2,4-D + MCPA)
Curtail™ (clopyralid + 2,4-D) <sup>1</sup>	

<sup>1</sup> Tank mixtures with this herbicide may result in reduced control of grass species.

<sup>2</sup> Tank mixtures with this herbicide may be made provided the specific product is registered for this use.

### **ROTATIONAL CROP INFORMATION**

#### **Crop Rotation Restrictions**

##### **Wheat**

No restrictions.

**Table 1 - OK, KS, NE, TX**

Crop	Cumulative	Rotation
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	Soil pH	Precipitation (Inches)	Interval (Months)
Millet	< 7.5	18	3
Corn - IR	< 7.5	18	3
Soybean -STS™	< 7.5	18	3
Winter Canola which exhibits tolerance to sulfonyleurea herbicides:	< 7.5	18	3
Corn - normal	< 7.5	30	12
Cotton	< 7.5	30	12
Soybean	< 7.5	30	12
Sorghum (grain)	6.0 - 7.5	30	22
Sunflower	< 6.0	30	17
Winter Canola which is not tolerant to sulfonyleurea herbicides:	6.0 - 7.5	30	22

Areas with pH higher than those listed above or with accumulated precipitation less than above must conduct field bioassay as indicated in the **Field Bioassay** section.

**Table 2 - WA, OR, ID**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Millet	< 7.5	18	3
CLEARFIELD™ Canola	< 7.5	18	3
Corn - IR	< 7.5	18	3
Soybean -STS™	< 7.5	18	3
Potato	< 7.5	18	12
Barley	< 7.5	24	22
Canola	< 7.5	24	22
Corn - normal	< 7.5	24	22
Lentils	< 7.5	24	22
Peas* - all classes	> 6.5	24	22
(including chickpeas)	< 6.5	30	17
Soybean	< 7.5	24	22

Areas with pH higher than those listed above or with accumulated precipitation less than above must conduct field bioassay as indicated in the **Field Bioassay** section.

\* Peas should not be planted on clay or eroded hillsides following a Maverick application without conducting a field bioassay as indicated in the **Field Bioassay** section.

**Table 3 - CO, SD, WY**

Crop	Cumulative	Rotation
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	Soil pH	Precipitation (Inches)	Interval (Months)
Millet	< 7.5	18	3
Corn – IR	< 7.5	18	3
Soybean -STS™	< 7.5	18	3
Corn – normal	< 7.5	24	22
Soybean	< 7.5	24	22
Sorghum (grain)	6.5 - 7.5	45	34
Sunflower	< 6.5	35	22

Areas with pH higher than those listed above or with accumulated precipitation less than above must conduct field bioassay as indicated in **Field Bioassay** section.

**Table 4 - MT, ND**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
CLEARFIELD™ Canola	< 7.5	12	12

Areas with pH higher than those listed above or with accumulated precipitation less than above must conduct field bioassay as indicated in the **Field Bioassay** section.

**Table 5 - All Other Regions**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Soybean -STS™	<6.5	30	3
Soybean	<6.5	30	5
	<7.5	24	12

Areas with pH higher than those listed above or with accumulated precipitation less than above must conduct field bioassay as indicated in the **Field Bioassay** section.

### Other Crops

All crops other than those listed above may be seeded only after the completion of a successful field bioassay and no sooner than 3 months after Maverick herbicide application. Refer to the **Field Bioassay** section.

## FIELD BIOASSAY

A field bioassay must be completed before rotating to crops other than those specified in this label or when rotating to shorter intervals than those listed in the **“Crop Rotation Restrictions”** section of this label. NO CROP except wheat may be planted sooner than 3 months after application.



To conduct an effective field bioassay, grow strips of the crop you intend to grow the following season in fields previously treated with Maverick herbicide. Crop response to the bioassay will determine if the crop(s) grown in the test strips can be grown safely in areas previously treated with Maverick herbicide.

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### **PREHARVEST INTERVAL (PHI) INFORMATION**

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Wheat forage may be grazed immediately after application of Maverick herbicide. Do not harvest wheat for hay within 30 days of Maverick herbicide application and do not harvest wheat for grain or straw within 55 days of Maverick herbicide application.

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### **WEED RESISTANCE**

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Biotypes of certain plants, particularly broadleaf weeds, have demonstrated resistance to sulfonylurea herbicides or other herbicides with the same mode of action. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic composition.

Weeds showing resistance to the sulfonylurea mode of action also can be expected to be resistant to Maverick herbicide. To prevent or delay the development of broadleaf weed resistance, it is recommended that Maverick herbicide be used in tank-mixes and/or in sequential applications with a registered herbicide having a different mode of action.

To prevent or delay any development of grassy weed resistance, particularly bromus species, it is recommended that in wheat-fallow-wheat production systems, a non-selective herbicide or tillage be used to control weeds to keep them from flowering and setting seed during fallow periods. It is not recommended that Maverick herbicide be used during fallow periods for weed control.

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### **Weed Control in Bermudagrass and Bahiagrass Pastures**

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Maverick herbicide may be used in early spring through the fall to control or partially control johnsongrass, purple and yellow nutsedge, green kyllinga and other weeds in well-established bermudagrass and bahiagrass pastures. Apply Maverick herbicide up to 2.0 ounces per acre. A follow-up application can be made after suitable regrowth of weeds and no sooner than 40 days after the previous application. Use higher rates of this product for control of large established weeds or when growth is heavy or dense. **DO NOT EXCEED TWO APPLICATIONS OR A MAXIMUM OF 2.66 OUNCES OF THIS PRODUCT PER ACRE PER YEAR.**

Addition of nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required. Use only nonionic surfactants that contain at least 90 percent active ingredient. Do not use surfactants that alter the pH of the spray solution below pH 5. Spray solutions of between pH 6.0 and 8.0 provide optimum results.



Grass forage may be grazed immediately after application. Do not harvest for hay within 14 days of application.

NO CROP, except wheat, may be planted into pastures that have been treated with this product within 12 months after application. All crops other than wheat may be seeded only after completion of a successful field bioassay as indicated in the **Field Bioassay** section of this label.

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#### **LIMIT OF WARRANTY AND LIABILITY**

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This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label pamphlet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company to the extent consistent with applicable law, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH



APPLICABLE LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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MAVERICK is a registered trademark of Monsanto Technology LLC.  
All other trademarks are the property of their respective owners.

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In case of emergency involving this product,  
call collect, day or night, (314 694-4000).

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©[Year]

MONSANTO COMPANY  
800 N. Lindbergh Blvd.  
ST. LOUIS, MISSOURI 63167 USA

Formulated in the United States Using Active Ingredient Made in Japan.



# OUTRIDER®

Herbicide by Monsanto

**Outrider herbicide is a selective herbicide for control of annual and perennial grass and broadleaf weeds in noncrop areas.**

## Complete Directions For Use

524-500

[insert year]

[insert print plate no.]

Read the entire label before using this product.

Use only according to label instructions.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

[Optional text] Do not apply by aerial application unless permitted by supplemental labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

[alternate language for container label]

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

Sulfosulfuron ..... 75.0%

OTHER INGREDIENTS: ..... 25.0%

100.0%

This product is protected by U.S. Patent Nos. 5,017,212 and 5,534,482. No license granted under any non U.S. Patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

(314) 694-4000.

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.



## CAUTION!

CAUSES MODERATE EYE IRRITATION.

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.</li><li>• Call a poison control center or physician for treatment advice.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or physician, or going for treatment.</li><li>• In case of an emergency involving this product, Call Collect, day or night, <b>(314) 694-4000</b>.</li><li>• This product is identified as <b>Outrider Herbicide, EPA Reg. No. 524-500</b>.</li></ul>	

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

*[For WPS uses only, delete this paragraph when sub-label contains only non-WPS uses]* When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.



This pesticide is highly toxic to non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

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### **DIRECTIONS FOR USE**

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### **Agricultural Use Requirements**

*[Agricultural Use Requirements box can be deleted if sub-label contains only non-WPS uses]*

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

**PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:**

- Coveralls
- Shoes plus socks
- Chemical-resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow the instructions for Category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.



### Non-Agricultural Use Requirements

*[Non-Agricultural Use Requirements box can be deleted if sub-label contains only non-WPS uses]*

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (40 CFR Part 170) for agricultural pesticides. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

*[Optional re-entry statement for non-WPS sub-label]* Keep people and pets off treated areas until spray solution has dried.

#### 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120°F). Do not store under moist conditions.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

#### CONTAINER DISPOSAL:

[See individual container label for disposal information.]

#### ***[Disposal Information for Plastic Bottle Packaging]***

Empty container retains vapor and product residue. Observe all labeled safeguards until container is destroyed. Do not reuse container. Triple rinse container, then puncture and dispose of it in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### ***[Disposal Information for Foil Pouch Packaging]***

Empty container retains vapor and product residue. Observe all labeled safeguards until container is destroyed. Do not reuse container. Triple rinse container, then puncture and dispose of it in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### 5.0 GENERAL INFORMATION

**Product Description:** This product is a preemergence and postemergence systemic herbicide. It controls many annual and perennial weeds in noncrop sites. It is a selective herbicide and can be used over the top of many perennial grasses, such as: unimproved bahiagrass, bermudagrass and tall fescue. It can also be used to control johnsongrass in the following native grasses: big bluestem, bushy bluestem, little bluestem, buffalograss, indiagrass, blue oats grama, side oats grama, lovegrass and switchgrass. It is formulated as a water dispersible granule (WDG).



**Time to Symptoms:** Outrider herbicide is absorbed by both the roots and the foliage of plants, rapidly inhibiting the growth of susceptible weeds. By 2 to 3 weeks after application to weeds, leaf growth slows and the growing points turn reddish-purple. Within 4 to 6 weeks application, leaf veins and leaves become discolored, and the growing points subsequently die. Warm and moist conditions following application will accelerate herbicidal activity. Cold, dry conditions will delay herbicidal activity. Weeds stressed by drought are less susceptible to Outrider herbicide.

**Rainfastness:** Heavy rainfall soon after application (less than 2 hours) may wash this product off of the foliage and a repeat application may be required for adequate control.

**Tank Mixing:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. Outrider herbicide can be tank-mixed with other herbicides or materials that are specifically recommended on this label. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

Tank mixtures with broadleaf herbicides formulated as amines (including 2,4-D and others) will decrease the effectiveness of Outrider herbicide.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials that are not recommended on this label may result in reduced performance.

**Maximum Annual Use Rate:** The combined total of all treatments must not exceed 2.66 ounces of this product per acre per year.

**IMPORTANT:** Do not allow this product to contact roots or foliage of desirable vegetation, areas where roots of desirable vegetation may extend, or areas where this product may be washed or moved into contact with roots of desirable vegetation.

**Desirable plants may be injured if planted into treated areas.**

Do not use on feed or food crops.

### **ATTENTION**

AVOID DRIFT. Care must be used when applying this product to prevent injury to desirable plants and crops. Do not allow the herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted since minute quantities of this product can cause severe damage or destruction to plants on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID



APPLYING AT EXCESSIVE SPEED OR PRESSURE. Drift control agent additives should be used for ground broadcast applications. When a drift control additive is used, read and carefully observe the precautionary statements and all other information appearing on the additive label.

## **6.0 MIXING**

Thoroughly clean equipment prior to mixing spray solution.

### **6.1 Mixing with Water**

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the spray tank to about three-fourths of the desired volume. Add the recommended amount of this product. Complete the filling process while maintaining agitation. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. Add nonionic surfactant near the end of the filling process where required.

### **6.2 Tank Mixing Procedure**

For tank mixtures, add individual formulations to the spray tank in the following sequence: water, water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by a nonionic surfactant. Tank mixtures of this product with Roundup PRO Concentrate™ herbicide or Roundup PRO® herbicide do not require addition of surfactant.

**Refer to the "GENERAL INFORMATION" section of this label for additional tank mixing precautions.**

### **6.3 Surfactants**

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications unless tank mixed with Roundup PRO Concentrate herbicide or Roundup PRO herbicide. Use only nonionic surfactants that contain at least 90 percent active ingredient. When this product is applied in a tank mixture with Roundup PRO Concentrate herbicide or Roundup PRO herbicide, addition of a surfactant is not necessary. **DO NOT USE NONIONIC SURFACTANTS OR OTHER ADDITIVES THAT ALTER THE pH OF THE SPRAY SOLUTION BELOW pH 5.** Spray solutions of pH 6.0-8.0 are optimum.

## **7.0 APPLICATION EQUIPMENT AND TECHNIQUES**

### **SPRAY DRIFT MANAGEMENT**

**AVOID DRIFT. CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.



Do not apply product through any type of irrigation system.

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

Do not allow the herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted since minute quantities of this product can cause severe damage or destruction to plants on which treatment was not intended.

## **7.1 Aerial Equipment**

**Use the recommended rate of this product in 5 to 15 gallons of water per acre when making aerial applications. Refer to the individual use area sections of this label for the recommended volumes, application rates and further instructions.**

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### **SPRAY DRIFT MANAGEMENT**

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Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to labeled non-crop sites. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

#### **AERIAL SPRAY DRIFT REQUIREMENTS**

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### **Importance of droplet size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the “**Wind**”, “**Temperature and Humidity**”, and “**Temperature Inversions**” sections of this label).

#### **Controlling droplet size**

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When



higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- **Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### **Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

### **Wind**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not be made during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes



small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

### **7.2 Ground Broadcast Equipment**

Apply Outrider herbicide uniformly with properly calibrated ground equipment in 10 to 50 gallons of water per acre. Select spray volumes that ensure thorough and uniform weed coverage. Use equipment that is capable of continuous agitation. Choose nozzles that provide optimum spray distribution and uniform coverage at the appropriate spray pressure. Avoid streaking, skips, overlaps and spray drift during applications.

### **7.3 Hand-Held and High-Volume Equipment**

Hand-held spray guns, backpacks, or other similar sprayers may be used to apply this product. Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

### **7.4 Injection Systems**

This product may be used in ground injection spray systems. It may be diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injections systems, unless specifically recommended.

### **7.5 Equipment Cleaning**

Thoroughly clean application equipment immediately after Outrider herbicide use. Prepare a tank cleaning solution which consists of a 1-percent solution of ammonia (one quart of ammonia for every 25 gallons of water). Use sufficient cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Repeat the procedure with the ammonia solution. Complete the cleaning process by rinsing with clean water.

If visible residue is present in the spray tank, a solution consisting of 1 percent ammonia plus 0.25 percent nonionic surfactant (0.25 quart per 25 gallons of water) is recommended for adequate cleansing.



## **8.0 SITE AND USE RECOMMENDATIONS**

Outrider herbicide may be used for general weed control on noncrop sites including airports, ditch banks, dry ditches, dry canals, fallow areas, fencerows, industrial sites, lumberyards, manufacturing sites, natural areas, petroleum tank farms and pumping installations, railroads, roadsides, storage areas, utility rights-of-way, utility sites and substations, and warehouse areas. Do not use on or around athletic, commercial, golf course, residential or sod farm turf.

### **8.1 BERMUDAGRASS AND BAHIAGRASS**

Outrider herbicide may be used to control or partially control many annual and perennial weeds for effective release of bermudagrass and bahiagrass on roadsides and other labeled noncrop sites.

#### **Ground Broadcast Application**

Apply Outrider herbicide at 0.75 to 2.0 ounces per acre. Follow-up applications should be made after suitable re-growth of weeds and no sooner than 30 days after the previous application.

Use the higher recommended rates of this product for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth and are not disturbed by mowing or other factors for 12 days prior to, or 12 days after application.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications unless tank mixed with Roundup PRO Concentrate herbicide or Roundup PRO herbicide. Use only nonionic surfactants which contain at least 90 percent active ingredient. When this product is applied in a tank mixture with Roundup PRO Concentrate herbicide or Roundup PRO herbicide, addition of a surfactant is not necessary.

#### **Hand-Held and High-Volume Equipment Application**

Add 1.0 ounce of Outrider herbicide per 100 gallons of water. Add 1 quart of a nonionic surfactant per 100 gallons of spray solution. Use only nonionic surfactants containing at least 90 percent active ingredient.

#### **Tank Mixtures**

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label directions, precautionary statements and all information on the labels of all products used.

This product may be applied at a rate of 0.75 to 2 ounces per acre in a Any recommended rate of this product may be tank-mixed with the following products. Refer to these product labels for approved noncrop sites and application rates. Use according to the most restrictive precautionary statements for each product in the mixture. Products recommended as tank-mixes with Outrider herbicide for bermudagrass or bahiagrass release are restricted to those specified in the "RELEASE OF BERMUDAGRASS OR BAHIAGRASS" section of this label.



Campaign®  
dicamba<sup>1</sup>  
diuron<sup>1</sup>  
Escort™  
Escort XP  
Garlon™ 3A  
Garlon 4  
MSMA<sup>1</sup>  
Oust  
Oust XP  
Plateau™  
Roundup PRO®  
Roundup PRO Concentrate  
Telar DF  
Transline™  
Vanquish™  
2,4-D<sup>1</sup>

<sup>1</sup> Tank mixtures with this herbicide may be made provided the specific product is registered for this use.

**NOTE:** Tank mixtures with broadleaf herbicides formulated as amines (including 2,4-D and others) will decrease the effectiveness of Outrider herbicide.

#### **Release of Dormant Bermudagrass or Bahiagrass**

This product may be used to control or partially control many winter annual weeds for effective release of dormant bermudagrass or bahiagrass when treated after grass is dormant and prior to spring green-up.

Apply any labeled rate of this product alone or in a tank mixture with 6.4 to 51 fluid ounces of Roundup PRO Concentrate herbicide, 8 to 64 fluid ounces of Roundup PRO herbicide or with 16 to 64 fluid ounces of Campaign herbicide per acre. In dormant bermudagrass only, up to 1 ounce per acre of Escort may be added to Outrider, herbicide or tank mixtures of Outrider herbicide and Roundup PRO Concentrate or Roundup PRO herbicide to increase the spectrum of broadleaf weeds controlled. Addition of Escort may delay green-up of bermudagrass. Tank mixtures of this product with Escort in highly maintained turfgrass areas will result in unacceptable turf injury.

In the state of Texas, applications of Outrider herbicide applied before September 30 will not delay green-up of bermudagrass the following spring; however some temporary discoloration of desirable spring germinating wildflowers may occur.

#### **Release of Actively Growing Bermudagrass**



This product may be used to control or partially control johnsongrass and other weeds for effective release of actively growing bermudagrass. Use only on well-established bermudagrass. Apply any labeled rate of this product alone or in a tank mixture with 6.4 to 26 fluid ounces of Roundup PRO Concentrate herbicide or 8 to 32 fluid ounces of Roundup PRO herbicide per acre. Use the higher rates of each product to control perennial weeds or annual weeds greater than 6 inches in height.

Up to 0.5 ounce per acre of Oust, up to 1 ounce per acre of Escort, or up to 0.5 ounce per acre of Telar may be added to Outrider herbicide or tank mixtures of Outrider herbicide with Roundup PRO Concentrate herbicide or Roundup PRO herbicide. DO NOT apply tank mixtures of this product with Oust, Escort or Telar in highly maintained turfgrass areas.

### **Release of Actively Growing Bahiagrass**

This product may be used to control or partially control johnsongrass and other weeds for effective release of actively growing bahiagrass. Use only on well established bahiagrass. Apply any labeled rate of this product alone or in a tank mixture with 5 ounces of Roundup PRO Concentrate herbicide or 6 ounces of Roundup PRO herbicide per acre.

**IMPORTANT:** Established bermudagrass and bahiagrass are tolerant to Outrider herbicide applications. Tank mixtures of other products with Outrider herbicide may increase grass injury. Where bermudagrass or bahiagrass are desirable ground cover use tank mixtures only when some temporary injury or discoloration can be tolerated.

## **8.2 Tall Fescue**

Outrider herbicide may be used to control or partially control johnsongrass and other weeds in tall fescue on roadsides and other labeled noncrop sites.

Use this product only in well-established tall fescue. Use of labeled rates can result in transient growth reduction and discoloration of tall fescue but these cause no long-term detrimental effects.

### **Ground Broadcast Application**

Apply Outrider herbicide at 0.75 to 1.0 ounce per acre. Do not exceed 1.0 ounce of this product per acre per year.

Use the higher recommended rate for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are actively growing and are not disturbed by mowing or other factors for 14 days prior to, or 14 days after application.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required. Use only nonionic surfactants containing at least 90 percent active ingredient.

### **Tank Mixtures**



Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label directions, precautionary statements and all information on the labels of all products used.

Any recommended rate of this product may be tank mixed with the following products.

Refer to these product labels for approved noncrop sites and application rates. Use according to the most restrictive precautionary statements for each product in the mixture.

dicamba<sup>1</sup>  
Escort  
Escort XP  
Garlon 3A  
Garlon 4  
Transline  
MSMA<sup>1</sup>  
2,4-D<sup>1</sup>

<sup>1</sup> Tank mixtures with this herbicide may be made provided the specific product is registered for this use.

**NOTE:** Tank mixtures with broadleaf herbicides formulated as amines (including 2,4-D and others) may decrease the effectiveness of Outrider herbicide.

### **Hand-Held and High-Volume Equipment Application**

Add 1.0 ounce of Outrider herbicide per 100 gallons of water. Add 1 quart of a nonionic surfactant per 100 gallons of spray solution. Use only nonionic surfactants containing at least 90 percent active ingredient.

Applications should be made to actively growing johnsongrass in early boot to full seedhead stage. Symptom development will be more rapid in less mature johnsongrass.

### **8.3 Conservation Reserve Program (CRP)**

Outrider herbicide may be used postemergence to selectively control johnsongrass, quackgrass, yellow nutsedge, purple nutsedge, tall fescue and other weeds listed in the "WEEDS CONTROLLED" section of this label in perennial native grassland areas enrolled in the Federal Conservation Reserve Program (CRP). Outrider herbicide may be applied to the following native perennial grasses: big bluestem, little bluestem, bushy bluestem, blue oats grama, side oats grama, buffalograss, indiagrass, lovegrass and switchgrass.

Apply Outrider herbicide at 0.75 to 2.0 ounces per acre. For control of tall fescue and quackgrass, apply Outrider herbicide at 1.33 to 2.0 ounces per acre. Follow-up applications should be made after suitable re-growth of weeds and no sooner than 30 days after the previous application. Do not apply Outrider herbicide to newly seeded perennial native grasses prior to the 3-leaf growth stage. The approved perennial



native grasses may be reseeded into treated areas no sooner than 14 days after treatment with Outrider herbicide.

Use the higher recommended rates of this product for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth and are not disturbed by mowing or other factors for 12 days prior to, or 12 days after application.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications.

Outrider herbicide has no established tolerances for forage grasses or grazing. Therefore, treated areas should not be grazed by domestic livestock for a minimum of one year following treatment with Outrider herbicide.

### **Crop Rotation Restrictions**

The following crops may be planted on land taken out of the Conservation Reserve Program (CRP) after applying Outrider herbicide.

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Barley	< 7.5	24	22
Canola	< 7.5	24	22
Corn - IR	< 7.5	18	3
Corn - normal	< 7.5	30	22
Cotton	< 7.5	30	12
Lentils	< 7.5	24	22
Millet	< 7.5	18	3
Peas* - all classes (including chickpeas)	> 6.5	24	22
	< 6.5	30	17
Potato	< 7.5	18	12
Sorghum (grain)	6.0 - 7.5	30	22
Soybean -STS™	< 7.5	18	3
Soybean	< 6.5	30	5
Soybean	< 7.5	24	22
Sunflower	< 6.0	30	22
Wheat			No restrictions

Soils with pH higher than those listed above or with accumulated precipitation less than above must conduct a field bioassay as indicated in the **Field Bioassay** section.

\* Peas should not be planted on clay or eroded hillsides following an Outrider application without conducting a field bioassay as indicated in the **Field Bioassay** section.



## Other Crops

All crops other than those listed above may be seeded only after the completion of a successful field bioassay and no sooner than 3 months after Outrider herbicide application. Refer to the **Field Bioassay** section.

### FIELD BIOASSAY

A field bioassay must be completed before rotating to crops other than those specified in this label or when rotating to shorter intervals than those listed in the "**Crop Rotation Restrictions**" section. NO CROP except wheat may be planted sooner than 3 months after application. To conduct an effective field bioassay, grow strips of the crop you intend to grow the following season in fields previously treated with Outrider herbicide. Crop response to the bioassay will determine if the crops(s) grown in the test strips can be grown safely in areas previously treated with Outrider herbicide.

### 8.4 Native Grasses

Outrider herbicide may be used postemergence to control johnsongrass, quackgrass, yellow nutsedge, purple nutsedge, tall fescue and other weeds listed in the "WEEDS CONTROLLED" section of this label in the following perennial native grasses: big bluestem, little bluestem, bushy bluestem, blue oats grama, side oats grama, buffalograss, indiagrass, lovegrass and switchgrass.

Apply Outrider herbicide at 0.75 to 2.0 ounces per acre. For control of tall fescue and quackgrass, apply Outrider herbicide at 1.33 to 2.0 ounces per acre. Follow-up applications should be made after suitable re-growth of weeds and no sooner than 30 days after the previous application. Do not apply Outrider herbicide to newly seeded perennial native grasses prior to the 3-leaf growth stage. The approved perennial native grasses may be reseeded into treated areas no sooner than 14 days after treatment with Outrider herbicide.

Use the higher recommended rates of this product for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth and are not disturbed by mowing or other factors for 12 days prior to or 12 days after application.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications.

### 9.0 WEEDS CONTROLLED

Use the higher recommended rates of this product for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when



weeds are in the early stages of growth and are not disturbed by mowing or other factors for 12 days prior to, or 12 days after application.

## **ANNUAL AND PERENNIAL WEED SPECIES**

### **Barley, volunteer**

*Hordeum vulgare*

### **Bedstraw, catchweed**

*Galium aparine*

### **Bentgrass, creeping**

*Agrostis stolonifera*

### **Bluegrass, roughstalk**

*Poa trivialis*

### **Bluegrass, bulbous**

*Poa bulbosa*

### **Brome, downy**

*Bromus tectorum*

### **Brome, riggut**

*Bromus rigidus*

### **Buttercup**

*Ranunculus arvensis*

### **Chamomile, mayweed**

*Anthemus cotula*

### **Cheat**

*Bromus secalinus*

### **Chess, hairy**

*Bromus commutatus*

### **Chickweed, common**

*Stellaria media*

### **Cocklebur, common**

*Xanthium strumarium*

### **Fiddleneck, tarweed**

*Amsinckia lycopsoides*

### **Flixweed**

*Descurainia sophia*

### **Horseweed**

*Conyza canadensis*

### **Johnsongrass**

*Sorghum halepense*

### **Ladysthumb**

*Polygonum persicaria*

### **Mustard, tumble**

*Sisymbrium altissimum*

### **Mustard, wild**

*Sinapis arvensis*



**Nutsedge, purple**

*Cyperus rotundus*

**Nutsedge, yellow**

*Cyperus esculentus*

**Pennycress, field**

*Thlaspi arvense*

**Quackgrass**

*Elytrigia repens*

**Ragweed, common**

*Ambrosia artemisiifolia*

**Shepherd's-purse**

*Capsella bursa-pastoris*

**Sunflower, common**

*Helianthus annuus*

**Tansymustard, pinnate**

*Descurainia pinnata*

**Vetch, sand**

*Vicia acutifolia*

**Vaseygrass**

*Paspalum urvillei*

**10.0 LIMIT OF WARRANTY AND LIABILITY**

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label pamphlet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company to the extent consistent with applicable law, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.



TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Maverick, Roundup PRO Concentrate, Roundup PRO and Campaign are registered trademarks of Monsanto Technology LLC.

All other trademarks are the property of their respective owners.

EPA Reg. No. 524-500

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In case of an emergency involving this product  
Call Collect, day or night, (314)694-4000.

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MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI, 63167 U.S.A.

Formulated in the United States Using Active Ingredient Made in Japan.



## **SUPPLEMENTAL LABELING**

READ THE ENTIRE LABEL FOR OUTRIDER® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Outrider herbicide as permitted according to this supplemental labeling, read and follow all applicable directions, restrictions, and precautions on the label booklet provided with the pesticide container and on this supplemental labeling. This supplemental labeling must be in the possession of the user at the time of pesticide application.

### **OUTRIDER® Herbicide by Monsanto**

EPA Reg. No. 524-500

Outrider is a trademark of Monsanto Technology LLC.

#### **FOR SELECTIVE HERBACEOUS WEED CONTROL IN FORESTRY CONIFER RELEASE.**

Keep out of reach of children  
**CAUTION!**

In case of emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

#### **Personal Protective Equipment (PPE)**

**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separate from other laundry.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.



### Environmental Hazards

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is highly toxic to non-target plants. Do not apply to non-target areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the worker protection standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements in this labeling about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker to enter into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.



## **Application Equipment and Instructions**

**Note:** Application of this product should not contact leaves of desirable plants since foliar injury, discoloration, or death may result.

**AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE >5 MILES PER HOUR OR GUSTY, OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED.**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Coarse sprays are less likely to drift; therefore, avoid combinations of pressure and nozzle types that will result in splatter or fine particles (mist) which are likely to drift.

### **Aerial Application**

**DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.**

Aerial application of this product is by helicopter only. Apply the recommended rate of this product in 5 to 30 gallons of water per acre. Use the higher recommended spray volumes where weeds are dense or form multiple canopy layers.

When used according to label directions this product will give control or partial control of herbaceous weeds such as ragweed and sedges and other weeds listed in the "WEEDS CONTROLLED" section of the Outrider® herbicide label.

### **Aerial Spray Drift Management**

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

#### **The importance of spray droplet size:**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but may not prevent drift if applications are made improperly or under unfavorable environmental conditions (see the following Wind, Temperature and Humidity, and Temperature Inversion sections of this advisory).



### Controlling initial droplet size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher flow rates produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation** - Orienting nozzles so the spray stream is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

### Controlling placement of spray droplets:

- **Boom length** - For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height** - Applications should not be greater than 10 feet above the top of the tallest plants unless a greater height is required for aircraft safety. Greater application heights result in greater droplet size reduction through evaporation and greater movement in air currents. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Application speed** - Slower aircraft speeds within a safe range will produce less air turbulence and fewer small droplets.
- **Swath adjustment** - When applications are made with a cross-wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (wind speed, droplet size, etc.).

### Key environmental factors:

- **Wind** - Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided when wind speeds are below 2 miles per hour due to variable wind direction and high inversion



potential. NOTE: Local terrain can influence wind patterns. Applicators should be familiar with local wind patterns and how they affect spray drift.

- **Temperature and humidity** - When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.
- **Temperature inversions** - Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable air currents that are common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke detector. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **Sensitive areas:**

Pesticides should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

Drift control additives may be used. When a drift control additive is used, read and carefully observe all the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven, or overlapped application, use appropriate marking devices.

### **FORESTRY HERBACEOUS CONIFER RELEASE**

This product is recommended for the control or partial control of herbaceous weeds in forestry conifer release as a Spring or early Summer application after planting. Best results with this product are obtained where Accord® SP herbicide or labeled tank mixes with Accord SP herbicide have been used for site preparation prior to planting.

This product is recommended for use in conifer release after planting loblolly, slash or longleaf pine and in fallow silvicultural nursery sites for these species.

### **APPLICATION RATES AND TIMING**



### **Ground Broadcast**

Apply Outrider herbicide at 0.75 to 2 ounces per acre. Do not exceed 2 ounces of this product per acre per year.

Use the higher recommended rates of this product or recommended tank mixes for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications unless tank mixed with another surfactant containing product. Use only nonionic surfactants which contain at least 90 percent active ingredient.

### **Hand-Held and High-Volume Equipment**

Add 1 to 2 ounces of Outrider® herbicide per 100 gallons of water. Add 1 quart of a nonionic surfactant per 100 gallons of spray solution. Use only nonionic surfactants containing at least 90 percent active ingredient.

### **Aerial Equipment**

Apply Outrider herbicide at 0.75 to 2 ounces per acre. Do not exceed 2 ounces of this product per acre per year.

Use the higher recommended rates of this product or recommended tank mixes for control of large established weeds as when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth.

Addition of a nonionic surfactant at 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence applications unless tank mixed with another surfactant containing product. Use only nonionic surfactant which contains at least 90 percent active ingredient.

### **TANK MIXTURES FOR CONIFER RELEASE**

Tank mixtures of this product may be used to increase the spectrum of herbaceous vegetation controlled. When tank mixing, read and carefully observe the label directions, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry conifer release, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank mix with the following products for forestry use.



**PRODUCT****BROADCAST RATE**

Arsenal™ Applicators Concentrate	4 fl oz/a*
Arsenal Applicators Concentrate + Oust™ or Oust XP	4 fl oz/a + 1 oz/a*
Oust or Oust XP	1-2 oz/a
Oust or Oust XP + Velpar	1-2 oz/a + 0.375-.05 lb/a
Oustar	8-12 oz/a
Velpar	0.375-0.75 lb/a

\*Use of surfactant not recommended for slash and longleaf pine.

Any of these mixtures can be used as a broadcast spray or a banded application around trees to reduce potential for soil erosion.

**Read the "LIMIT OF WARRANTY AND LIABILITY" statement in the label booklet for Outrider herbicide before using. These terms apply to this SUPPLEMENTAL LABELING, and if these terms are not acceptable return the product unopened at once.**

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St. Louis, Missouri 63167

[insert print plate no.]



1. DATE PULLED		16 DATE PULLED		11. ACTION TYPE		12. OUTGOING DATE	
3/28/08		AWP		Renewal Supplemental for Mater for Bernadegrasa/Robezian Partes 300			
2. METHOD OF SUPPORT		3. PRODUCT MANAGER		4. REVIEWER		5. SIGNATURE OF REVIEWER	
<input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 1C							
6. REVIEW TYPE		REVIEWER CODE		SIGNATURE OF REVIEWER		COMMENT CODE	
A. REVIEWABILITY TEAM		1					
B. PRODUCT MANAGER TEAM EFFICACY REVIEW		1					
C. PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW		1					
D. PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW		1					
E. PRODUCT MANAGER TEAM REGISTRATION REVIEW		1					
F. PRODUCT MANAGER		1		JIKW/RL		013/28/08	
G. INTERAGENCY REFERRAL		1		Supplemental		IAC 013/28/08	
H. COST-BENEFIT REVIEW		1		Mater type recommended		RL	
I. PUBLIC COMMENTS REVIEW		1					
J. EEE BRANCH INSECTICIDE EFFICACY		1					
K. EEE BRANCH HERBICIDE EFFICACY		1					
L. EEE BRANCH FUNGICIDE EFFICACY		1					
M. EEE BRANCH ROSEINICIDE EFFICACY		1					
N. EEE BRANCH DIMAPECTANT EFFICACY		1					
O. CHEMISTRY BRANCH REMOVE CHEMISTRY		1					
P. EEE BRANCH ENVIRON. MENTAL CHEMISTRY		1					
Q. TOXICOLOGY BRANCH HUMAN SAFETY		1					
R. EEE BRANCH ENVIRON. MENTAL SAFETY		1					
S.		1					
T.		1					
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE			



MONSANTO



**MONSANTO COMPANY**

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SUITE 450 EAST  
WASHINGTON, D.C. 20005  
PHONE (202) 383-2866  
FAX (202) 789-1748  
<http://www.monsanto.com>

**HAND DELIVERED**

March 24, 2008

Document Processing Center (AMEND)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room 54900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, Virginia 22202-4501

Attention: Mr. James A. Tompkins  
Team Leader 25

Subject: **Maverick® Herbicide, EPA Reg. No. 524-500;  
Submission of Revised Supplemental Labeling for Control of Johnsongrass, Purple and  
Yellow Nutsedge, and Green Kyllinga in Bermudagrass and Bahiagrass Pastures**

Dear Mr. Tompkins:

Enclosed for EPA review and approval is revised supplemental labeling for the above referenced product and use. This labeling is similar to that proposed in the original submission dated January 20, 2006, but revised to clearly state that a maximum of two applications are allowed per year and that applications are to be made in early spring through the fall. This use is critical to the needs of livestock and hay producers in the U.S.; therefore, on their behalf, Monsanto respectfully request the Agency to consider this matter at its earliest convenience.

The registration action for which this submission is being made is PP#6F7031, for which a PRIA service fee has already been paid; therefore, no additional fees should be required at this time. Please send any PRIA-related correspondence regarding this matter via electronic mail to [Regulatory.Affairs@Monsanto.com](mailto:Regulatory.Affairs@Monsanto.com).

If you should have any questions regarding this submission, please contact Dr. Russell P. Schneider at (202) 383-2866, or me directly at (314) 694-9035 or by electronic mail at [stephen.a.adams@monsanto.com](mailto:stephen.a.adams@monsanto.com).

Sincerely,

Stephen A. Adams  
Registration Manager

cc: Russell P. Schneider





United States  
**Environmental Protection Agency**  
 Washington, DC 20460

☐ **Registration**  
☒ **Amendment**  
☐ **Other**

OPP Identifier Number

**289637****Application for Pesticide – Section I**

1. Company/Product Number Monsanto Company / EPA Reg. No. 524-500	2. EPA Product Manager James A. Tompkins	3. Proposed Classification  <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Monsanto Company / Maverick® Herbicide	PM # 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 1300 I St., N.W., Suite 450 East Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

**Section – II**

<input checked="" type="checkbox"/> Amendment – Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated
<input type="checkbox"/> Resubmission in response to Agency letter dated	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification – Explain below.	<input type="checkbox"/> Other – Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II)

Submission of revised supplemental labeling for use of sulfosulfuron on pastures (PP#6F7031). PRIA Service Fee already paid. Please address any PRIA inquiries to Regulatory.Affairs@Monsanto.com.

**Section – III**

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)
* <b>Certification must be submitted</b>		If "Yes" Unit Packaging wgt. No. per Container	If "Yes" Package wgt. No. per Container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

**Section – IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider, Ph.D.		Title Senior Director of Regulatory Affairs and Public Policy	
		Telephone No. (Include Area Code) (202) 383-2866	
<b>Certification</b> <i>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.</i>			6. Date Application Received <b>(Stamped)</b>
2. Signature 		3. Title Registration Manager	
4. Typed Name Stephen A. Adams		5. Date March 24, 2008	



# MATERIAL TO BE ADDED TO JACKET

REG #

524-500 Maverick, Outrider

Description:

Career Reclassification Memo and background

check all that apply	
<input type="checkbox"/>	new stamped accepted label
<input type="checkbox"/>	new CSF
<input type="checkbox"/>	notification

Send to CSC

## Instructions:

Attach this sheet to the top of **ALL** material sent to the file room (both loose paper and new material in jackets). This sheet will be imaged; a clear description will aid in finding material in the e-jacket. Remove staples from all material. If returning loose paper then hold together with a binder or paper clip. CSFs should be placed in the CSF folder (if returning jacket) or covered with a red CBI sheet (if returning loose paper). Material to be returned to file room should be place in the appropriate bin.

Reviewer's

Name: Verkie K Walters

Date: 9/1/08

Phone: 703-305-5704

Division: RD/HB/PM-25





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

FEB 28 2008

Mr. Stephen A Adams  
Monsanto Company  
1300 I (Eye) Street, NW, Suite 450 East  
Washington, DC 20005

Dear Mr. Adams:

Subject: MON 37500 Technical  
EPA Registration No. 524-499  
Maverick Herbicide  
Outrider Herbicide  
EPA Registration No. 524-500 ✓  
Maverick Pro Herbicide  
EPA Registration No. 524-525  
Cancer Reclassification

The scientific review and evaluation of the information submitted in support of the request to consider the reclassification of the carcinogenic potential of sulfosulfuron have been completed.

Based on the available information the HED CARC has classified sulfosulfuron as "Not likely to be carcinogenic" at doses that do not cause crystals with subsequent calculi formation resulting in cellular damage of the urinary tract. The Agency has also determined that the endpoint selected for chronic RfD based on the NOEL of 500 parts per million (ppm) (24.4 mg/kg/day) from the carcinogenicity study in rats is considered protective of cancer and non-cancer effects.

Based on the above reclassification, the requirement that sulfosulfuron labels carry a statement requiring closed mixing/loading systems (or coveralls for mixer/loaders) stated in the human health risk assessment for PP 6F7031 dated July 27, 2007 is no longer required.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)